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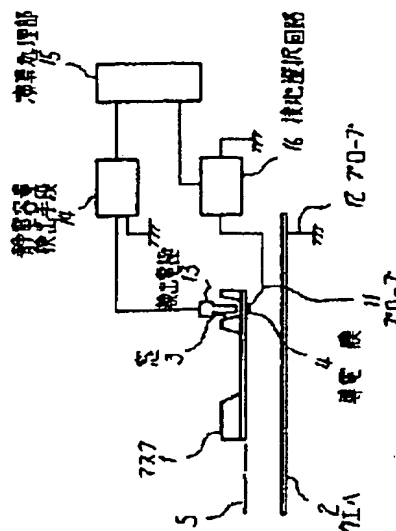
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TITLE : MEASURE OF GAP BETWEEN MASK AND WAFER



ABSTRACT : PURPOSE: To have no errors and receive no influences of a drift over a long period of time by using one electrostatic capacitance detecting means and measuring respective positions of a mask and a wafer.

CONSTITUTION: A mask 1 and a wafer 2 face to each other at a distance of a minute gap such as, for example, 40  $\mu\text{m}$ , a thin conductive film 4 on the mask is electrically connected by a first probe 11, and the film 4 is grounded by a second probe 12 of the wafer 2. A calculation processing part 15 drives the ground selecting circuit 16 to ground the first probe, namely a thin conductive film 4 on the mask, and electrostatic capacitance  $C_1$  is inputted between a detecting electrode 13 and a thin conductive film 4 to be obtained from electrostatic capacitance detecting means 14. Next, the ground selecting circuit 16 is driven to insulate between the first probe 11, namely the thin conductive film 4 on the mask, and the ground, and electrostatic capacitance  $C_2$  is inputted between the detecting electrode 13 and the wafer 2 to be obtained from the electrostatic capacitance detecting means 14. Next, a gap  $d_3$  is calculated based upon an equation  $d_3 = \epsilon S(1/C_2 - 1/C_1)$  ( $\epsilon$  is a dielectric constant of an air,  $S$  is an electrode area).

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